NOTES ON THE HABITS OF CERTAIN VENEZUELAN BIRDS.

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In 'The Auk' for July, 1902 (Vol. XIX, pp. 258-267), I published a list of the birds of Margarita Island, Venezuela, based on a collection made by myself in that locality in the summer of 1901. During my stay on the island, as well as while at various towns on the mainland, I took copious notes on the habits of the different species, which lack of space prevented my giving, at that time, in as much detail as I would have desired. In view of the fact that so few people ever visit this part of the world, or ever see these birds under the conditions which pertain there, I shall take this opportunity of selecting the most interesting from among them, and giving a brief sketch of their peculiarities, treating them in the order in which they were given in the list.

The Booby Gannet (Sula sula Linn.) was one of the commonest sea-birds at the time of my visit. The first were observed far out in the Caribbean; and on nearing the South American coast, little companies of half a dozen or so became rather frequent. But in no place did I see them so abundant as in the channel between Margarita and the mainland, and, at certain times, about Carúpano. They seemed to approach the land solely for the purpose of feeding, after which they withdrew to open water. Just off Carúpano there was a certain spot to which every day came hundreds of sea-birds of many species to fish. Over one half of this congregation were common Brown Pelicans (Pelecanus fuscus Linn.), and most of the rest were these gannets. Overhead soared a score or more Frigate Birds (Fregata aquila Linn.), while various gulls and terns composed the remainder. All the larger members of this vast flock acted in perfect unison, wheeling about. until a sufficient altitude was obtained, all diving with a great splash, then all slowly rising again to repeat the performance. Every now and then a Frigate Bird would come swooping down upon some hapless gull. I was much puzzled, at first, to find a plausible explanation for the fact that, day after day, the birds collected in practically the same spot to feed. The water there

was fully as deep as in the surrounding parts, and, from the land, no difference whatever was discernible. I thought I had found a possible clue to the mystery one day, while I was watching some boys fishing off the end of the wharf. Every few minutes some fish or other, most often a sea-catfish (Galeichthys) would rise to the surface, feebly struggling, to be almost instantly gobbled by some watchful gull or Frigate Bird. I obtained a couple of these fish, but could find no marks whatever on them to indicate in what manner they had been disabled. The inhabitants told me that at certain times fish run ashore here by the cart-load, and say it is due to the larger fish driving them in; but the United States vice-consul at Carúpano, Señor Orsini, believes that the real cause is the escape of sulphurous fumes through some crevice in the sea bottom, tainting the water so as to make it poisonous for the fish, which, to escape death from suffocation, run ashore. As the whole country about the town is very rich in sulphur, such an explanation seems highly probable; and it may well be that under the spot where the sea-birds congregate, coming to it from miles up and down the coast, there is some sulphur spring or temporary opening slowly giving out some volcanic gas or other which disables the fish. Unfortunately I could not visit the spot to test the truth of my theory; but I took several catfish which I found one day washing up on the beach, and carried them to a salt lagoon, entirely cut off from the sea. When placed in this, they immediately swam to the bottom, and I saw them no more.

Single boobies may often be seen fishing in company with solitary pelicans, imitating in every way the actions of their larger companions, diving at the same time, and rising simultaneously. Mr. Outram Bangs has suggested to me that perhaps the booby, being smaller and more active, finds a good fare in the fish which the uncouth pelican fails to catch. Just before dark, the gannets retreat to the channel between Margarita and the mainland, and fly about, uttering a peculiar note midway between a caw and a quack. They are unsuspicious, and pay no attention whatever to a beat, resembling pelicans in this respect; but they are not so readily caught by means of a hook and line as the latter. Directly east of Margarita there is a large rock, rising to a considerable

height above the surface of the sea. My attention was drawn to it from the fact that the few White Boobies (? *Sula piscator* Vieill.) seen seemed to come from that direction. An examination of this rock in early spring might yield interesting results in regard to the breeding of many of the sea-birds of this region.

A bird which claims our attention from its great abundance and large size, is the Black Vulture (Catharista urubu Vieill.). You are almost never out of sight of one, while they congregate by thousands about the cities, soaring overhead, or perched on the house-tops. The poorer quarter of Carácas is a favorite rendezvous for these birds, attracted thither, doubtless, by the unrivaled assortment of foul odors to be found there, as well as by the prospects of rich and bounteous repasts. Near Carúpano they were strangely scarce, due to the generally clean and wholesome condition of the town. On Margarita they were quite common, soaring about over the hillsides, generally keeping near the ground, and collecting by the score on the beaches to feed on the dead dogs which were continually floating in, as a result of a war of extermination made on canines during my visit. They are quarrelsome birds, using both claws and beak on an adversary; and I once saw one fatally hurt by others in a fight over the eyes of a dog which had just washed up on the beach near Porlamar. In the town of Port-of-Spain, on the English island of Trinidad, where 'corbeaus' are strictly protected by law, they are especially abundant, and may be seen at all times, walking about the streets, as tame as are English Sparrows in our cities. In fact, so highly do the people of Trinidad esteem the vultures as scavengers, that many crimes which are regarded as serious in our ideas of justice are punished less severely than the killing or injuring of one of these birds. In Port-of-Spain it is a common sight to see a vulture with one of its feet crippled from having been stepped on or run over while engaged in a contest with others over a bit of offal.

Perhaps the most characteristic bird of the coast region of Margarita, certainly the one which most surely claims the attention of the traveler unused to the American tropics, is the Parrakeet (Conurus æruginosus Linn.). One is never out of hearing of their incessant noise while near the coast, and little flocks of a dozen

to twenty are continually passing and repassing. They have two traits which are more or less common to all the group: they become instantly quiet and motionless on alighting, and are therefore very hard to locate in a tree; and they show great solicitude for a comrade in distress. I had been on Margarita a couple of weeks before I was able to secure a specimen, in spite of their abundance, so restless are they; but at last I succeeded, by dint of skilful manœuvreing, in wounding one, which came fluttering down, square onto a 'tuna' bush, on which it was impaled, struggling and screeching. The remainder of the flock, about a dozen in all, immediately descended, and hovered about their unfortunate companion, some alighting on the ground, and others in a neighboring thorn tree, displaying as much anxiety as a robin does, when some intruder is in the vicinity of her nest. In fact, so unsuspicious were they, and so heedless of my presence, that I secured eight and could have got others, had I been able to care for them properly.

Perhaps I might add parenthetically an item in regard to these eight parrakeets, which illustrates one of the inconveniences of tropical collecting. I took them back to El Valle, the little town in which I was staying, together with four Burrowing Owls (Spectyto brachyptera Richm.), a White-tailed Buzzard (Buteo albicaudatus Vieill.), and a number of shore-birds and terns. As I had had no food since early morning (it was then the middle of the afternoon) and had passed a particularly trying day, walking many miles over shadeless, scorching sand, I thought that I would eat a light repast and take a short nap before skinning my trophies. In about half an hour I arose, and was much interested. as well as surprised, to see a long line of feathers, green, brown, gray, and white, moving along close to the wall, and disappearing into a hole. Investigation revealed the fact that the motive force behind each feather was a small ant. A hasty examination of my specimens showed me that seven of my parrakeets were so denuded as to be useless, all the owls were ruined, and the water birds were so greasy as to be unfit for preservation; the hawk, also, had begun to decay. After this rather severe experience, I never rested until the results of my day's collecting had been put in order, and out of the reach of these interesting, but obnoxious insects.

In the forest, replacing the parrakeet of the coast region, we get the large green Amazonian Parrot. This bird is common, and very noisy, its cry resembling the word *loro*, by which name it is known to the natives. When flying, from its great breadth of wing, it seems to lack both head and tail, being apparently of the same width from one wing tip to the other. Although of some size, it is a difficult bird to see, owing to its color, and its adroitness at concealing itself. If it were not for its continuous racket, it would often escape detection.

At Carúpano I had the opportunity of observing some very small parrakeets, about the size of an English sparrow. They were regular visitors in the courtyard of the hotel, and could be seen occasionally in the outskirts of the town. Their habits were quite sparrow-like, both in searching for food, and when flying. I was informed here, and had it confirmed at Trinidad, that they were abundant a few miles back from the coast. There is a more or less traveled route from Carúpano to Ciudad Bolivar, passing through the barren hill region of the coast, and then crossing the great "wilderness" which borders the Orinoco. Along this trail, large mammals of many species are common, such as the jaguar, puma, and ocelot, and macaws, toucans, many parrots, and numbers of other birds are abundant. From what I was able to learn, this would be a most interesting, as well as profitable trip for some ornithologist with leisure and an inclination for new experiences. It takes a little over two weeks, and is performed by means of mules and burros. The United States consul at La Guaira told me that, had he a knowledge of taxidermy, he could do a great deal for science by preserving the many curious mammals and birds which were brought to him out of this little explored region.

We have no bird, which, for pure foolishness and general lack of spirit, can be compared with the Two-banded Puff-bird (Bucco bicinctus Gould). Resembling somewhat, with its large beak and dark breast bands, a clumsy kingfisher, it can be approached very closely without taking alarm; and when it does fly, it merely goes to the nearest available tree or bush and awaits the second approach of the intruder. Even when shot at, it flies only a few yards, and then alights, inviting its pursuer to try again. Sometimes it does not fly at all, but remains stupidly staring at the cause of the

disturbance, until you either take pity on its idiocy, or kill it. I have shot two of them, perched near together, the second not being moved in the slightest degree by the death of the first. Sometimes, indeed, when out collecting with native boys, I have refused to shoot a puff-bird, whereupon they would attack it with stones, on a few occasions actually succeeding in killing it without causing it to take alarm. This bird is provided with a couple of blunt spurs on its wrists, with which it might possibly give one an unpleasant surprise; but I never saw an individual attempt to use them, as when wounded, no matter how slightly, they always seem quite resigned, and do not struggle as would a robin or blue-jay under similar circumstances.

Bonaparte's Woodpecker (*Melanerpes subelegans* Bon.) is an abundant bird on Margarita, and one can almost always hear it at a greater or less distance. Its cry is a loud rattle, peculiarly harsh and grating, which gets to be quite monotonous on short acquaintance. In spite of its abundance, I had a hard time getting specimens, as it seems to be difficult to kill: so much so, in fact, that it was one of the last birds added to my list. Their nests are commonly constructed high up in the cocoanut palms.

The little Buff-breasted Hummingbird (*Doleromya pallida* Richm.) is sure to force itself upon one's attention by means of its strikingly loud voice. Just before dark, their notes, with a peculiar metallic quality, can be heard coming from the thick scrub on the hillsides. A close approach reveals the songster, perched upon some prominent twig. Here he sits, until some rival flies up and drives him off. He generally has not long to wait, as these, in common with many other hummingbirds, are very pugnacious.

During my stay on the island, I discovered a nest of Alice's Hummingbird (Amazilia aliciæ Richm.), neatly constructed after the manner of the red-eyed vireo; but while I was engaged in getting some means by which to reach it, my native companions, thinking I had left it, took the opportunity of testing their skill at stone-throwing, with the result that the nest was totally destroyed, and the bird killed. The boys also found some nests of Atala's Emerald (Chlorostilbon caribbaa Lawr.), but I was not fortunate enough to do so. The birds were, in two cases, readily captured.

Of all the feathered tribe on the island, the Lance-tailed Manakin (Cheiroxiphia lanceolata Wagl.) seemed to me the most pleasing and generally attractive. Occurring in the mountain forest, its clear whistle is a distinctive feature of this part of the country. The natives call it "tintoro" which is a very good rendering of its note; the first syllable being moderately high, the next medium, with a rising inflection, the last low. Owing to the thick undergrowth and miserable footing in the deep woods on Margarita, I had some trouble at first to secure specimens, as everything naturally fled at my painfully noisy approach, until I tried imitating their song, which was very successful. I found two nests in the forest, both about five feet from the ground, one built after the manner of an orchard oriole, and the other a loose structure like that of a rose-breasted grosbeak. Both contained four eggs, resembling those of a scarlet tanager, but somewhat lighter in color. As no birds could be found in their vicinity, I did not disturb them; but from Capt. Robinson's description of a nest of this species which he found at La Guaira, I judged that one of these, if not both, belonged to this bird.

A surprise is in store for the novice when he first meets with the Barred Ant-shrike (*Thamnophilus doliatus* Linn.). One day, shortly after my arrival, while wandering about in the deep woods, I heard a cawing in the distance. Hoping to add some jay or other corvine bird to the fauna of the island, I carefully crept to the spot whence the sound proceeded, only to find that a solitary ant-shrike had been making all the disturbance. These birds sit very erect, resembling, with their long crests, our cedar waxwing.

The Creeper (Dendroplex longirostris Richm.), colored after the fashion of the Common Dipper (Cinclus cinclus Linn.) is a very different bird in life from what one supposes from an examination of specimens in collections. As a rule they are mounted in museums on T perches, which gives them, except for their beaks, the general appearance of some peculiar thrush. But in reality, they never, as far as my experience goes, assume that position, acting more nearly like large nuthatches than anything else. Their cry is a rattle like that of the belted kingfisher, but harsher and more grating. They nest in the post-cactus.

One of the most brilliant of the common birds was the large

oriole known as the Troupial (*Icterus icterus* Linn.). They were particularly noticeable in the hot coast region, where they were a welcome offset to the discouraging presence of the black vulture. Their loud but cheerful song consists of three notes, the first rather low, the second high, and the third intermediate. The word "troupial" accented on the middle syllable is a good onomatopoetic rendering of it. I was unable to find their nests.

Another common bird, resembling the troupial in many ways, although less energetic, is the Margaritan Oriole (*Icterus xanthornus heliocides* Clark). This bird has precisely the same notes as the other but less loud, and pitched a trifle higher. The males seemed to me to be considerably brighter and more strongly orange than any I had ever seen in collections, an observation which was found to be true on comparing my specimens with others from different localities. Their nests are commonly seen constructed affer the manner of those of our common oriole, and placed near the tip of the long cocoanut fronds.

The lagoons bordering the island, especially a few miles to the eastward of Porlamar, formed the abiding place of many shore birds and terns, while on the edges of the mangrove swamps herons of many species could be seen. The commonest of the terns was a large one which I took to be the Sooty Tern (Sterna fuliginosa Gmel.). This was seen in immense flocks, wheeling about over the shallow water, showing now black, now white, according as their white breasts or black backs were visible. I also met with them afterwards at different places among the West Indies, but never in such numbers as at Margarita.

One day while on the sandy plain near the coast, my attention was attracted by a flock of about twenty very large birds, in the form of a wedge flying in the direction of the lagoon which separates the two parts of the island. Their size and actions suggested geese; and it occurred to me that perhaps they were flamingoes. Although these birds have never been recorded from this locality the central lagoon and mangrove swamp seem to furnish a good situation for them, and I should not be surprised if at some future time specimens of them are obtained there.

There was one other problem connected with the bird fauna of Margarita which I was unable to solve. Near the top of a high

spur of the central mountain just south of El Valle, there was a large cave, consisting of a spacious chamber, with an entrance about ten feet in diameter, and two shafts, one leading directly up through the roof, and the other slanting. The only inhabitants were a number of small bats (belonging to the genera *Peropteryx*, Micronycteris, and Glossophaga). The whole floor was covered with the skeletons of small birds and mammals, the larger part being those of the small doves. I recognized also Bonaparte's woodpecker among them, and in addition the remains of a murine opossum (? Marmosa robinsoni Bangs) and some small rodent. The question arose, what brought them there? The cave was high above any place where these forms could be found commonly, if at all, and no birds but vultures were seen in the vicinity; neither were there any traces of owls having lived here. The remains must have been accumulating for many years, as in some places they were over an inch deep, and the ground in front of the cave was strewn with them.

In spite of the work done in this locality by Capt. Robinson and myself, there are still several species on the island which neither of us obtained; and it is to be hoped that, in the near future, someone will visit Margarita and make a much more complete list than we have been able to do.